drolytic as well as a pectic enzyme. The enzymes of the pathogene bacteria are subjects of a great deal of study, and much has been written on them.

Zymogens ("mother of ferment") are known from the animals. They have been found in plants, such as Nepenthes, in resting wheat grains, in the irritable cells of Dionaea muscipula, and in others.

A discussion of the constitution of the enzymes, the many theories with reference to their mode of action, etc., forms the conclusion of Professor Green's solid work.—J. CHRISTIAN BAY.

Equiseta in the carboniferous.[9]

It is now about nine years since MM. Renault and Zeille[10] published from the Commentry basin, upper coal measures, a description and figure of an Equisetum stem about 12^{cm} long and 4 or 5^{cm} wide, showing thirteen nodes which are provided with unquestionable toothed sheaths in the arrangement characteristic of *Equisetum.* This *Equisetum Monyi* constitutes perhaps the first really good evidence of the presence of the genus in the carboniferous, though a number of unsatisfactory species of *Equisetites* were published years ago by older authors. This evidence is now essentially corroborated by the description and illustration, by Mr. Kidston, of several fructifications which, although the under sides of the hexagonal sporangiferous shields with the sporangia cannot be seen, are so nearly identical in every character with the cones of *Equisetum limosum* Sm. as to leave almost no room for doubt as to the existence of the actual genus as far back in geological time as the carboniferous. The specimens are from the shale in the Barnsley thick coal, in the middle coal measures of Yorkshire, England.—DAVID WHITE.

The mechanics of growing plants.

While Charles Darwin, Krabbe, Clark and others have brought to light many important facts bearing upon the work accomplished by plants in growth and movement, yet to Dr. Pfeffer must belong the credit of the formulation of the gen-

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[9] ROBERT KIDSTON; On the occurrence of the genus Equisetum (*E. Hemingwayi* Kidston) in the Yorkshire coal-measures. Ann. and Mag. N. H., F. 1892. 138-141.

[10] Comptes Rendus, 5 Ja 1885. Études sur le terr. houill. Commentry.—Flore fossile 2: 394. *pl. 57. f. 7.* St. Etienne, 1890.